

WATERLINES

News affecting the management and use of Indiana's water resources

DIVISION OF WATER
INDIANA DEPARTMENT OF NATURAL RESOURCES
WINTER 2006

INDEPENDENT REPORT SHOWS THAT MITIGATION WORKS



Every dollar spent on mitigation saves society an average of four dollars, according to a new study released on December 19, 2005, by the Multihazard Mitigation Council (MMC) of the National Institute of Building Sciences.

The study examined hazard mitigation grants over a 10-year period (1993-2003) that were aimed at reducing future losses from earthquakes, floods and high wind. It found that these efforts were successful and cost-effective.

According to the study, mitigation results “in significant net benefits to society as a whole — to individuals, to States and to communities — in terms of future reduced resource losses and

significant savings to the federal treasury in terms of future increased tax revenues and future reduced hazard-related expenditures.”

The study was mandated by Congress and conducted independently by the Council. It involved two interrelated components: (1) a benefit cost analysis of a broad sample of Federal Emergency Management Agency (FEMA) mitigation grants and (2) additional empirical research on FEMA-funded mitigation activities carried out in eight selected communities. The community studies examined all FEMA mitigation grants received by the selected communities between the years of 1988-2003.

Key findings include:

- On the average, a dollar spent on mitigation saves society \$4.

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Mitigation is the cornerstone of emergency management. It's the ongoing effort to lessen the impact disasters have on people's lives and property through damage prevention and flood insurance. The impact on lives and communities is lessened through measures such as, building safely within the floodplain or removing homes altogether; engineering buildings and infrastructures to withstand earthquakes; and creating and enforcing effective building codes to protect property from floods, hurricanes and other natural hazards. ~~~

- In addition to savings to society, the federal treasury can redirect an average of \$3.65 for each dollar spent on mitigation as a result of disaster relief costs and tax losses avoided.
- In each of the eight communities studied in

depth, FEMA mitigation grants were a significant part of the community's mitigation history and often led to additional loss-reduction activities.

- Mitigation is sufficiently cost-effective to warrant federal funding on an ongoing basis, both before disasters and during post-disaster recovery.

"We've all seen that mitigation helps to save lives and reduce property damage," said David I. Maurstad, FEMA's Acting Director of Mitigation. "But until the MMC study, we haven't had independent, objective, quantitative data analysis to show that building stronger and safer is also a sound investment."

Copies of the study are available at www.nibs.org/MMC/mmcactiv5.html . ~~~

www.fema.gov

MAP MODERNIZATION UPDATE

By David Knipe, PE, CFM, Section Manager, Division of Water

The Division of Water continues to work on the Map Modernization project for upgrading the Flood Insurance Rate Maps (FIRMs) to modern mapping standards.

Contracts are in place with consultant partners and work has commenced on hydraulic modeling for the 14 counties funded in 2005. The Division has been hard at work surveying bridges, determining flow rates and organizing existing studies completed by or contracted for the Division and/or local government entities (referred to as leverage studies) for incorporation into the mapping. In total, 252 miles of approximate studies, 156 miles of detailed studies, 179 miles of redelineations and 170 miles of leverage studies are to be included in the entire 2005 project. The counties for 2005 are Adams, Clark, Dearborn, Delaware, Elkhart, Floyd, Hamilton, Lawrence, Madison, Monroe, Porter, St. Joseph, Vigo and Warrick. Work also continues on Allen, Marion, Vanderburgh, Lake, Hancock, Hendricks and Tippecanoe counties.

For 2006, the Division plans to revise mapping for 15 counties, the process for which is starting now. Initial selections of streams to be studied are being completed, and once funding from the Federal Emergency Management Agency (FEMA) is secured, the project scope can be completed. The gathering of initial data is also in progress. The 15 counties to be studied in 2006 are Bartholomew, Boone, Dubois, Grant, Harrison, Howard, Jackson, Knox, Kosciusko, LaPorte, Marshall, Montgomery, Morgan, Shelby and Wayne.

For information about the Map Modernization project in Indiana, contact David Knipe, PE, CFM, at the Division of Water, 317-232-4160. To understand more about Map Modernization, you can also go to www.fema.gov/fhm/mm_main.shtm. ~~~

Catch it in *Outdoor Indiana*

Read about the Indiana Department of Natural Resources, Division of Water Map Modernization Project in the March/April 2006 issue of *Outdoor Indiana*, which will be available the first week of March. ~~~

CONFERENCE CORNER

ANNUAL INAFSM CONFERENCE

The 2005 Conference of the Indiana Association for Floodplain and Stormwater Management (INAFSM) was held at the New Harmony Inn and Conference Center in historic New Harmony, September 28-30, 2005. The conference featured many interesting floodplain and stormwater based sessions — including a mobile workshop, which took participants to the banks of the Wabash River to view an erosion control project site.

Awards presented at the conference included the Excellence in Stormwater Management, which was awarded to the Indiana University Office of Environmental Health and Safety; Outstanding Stormwater Project Award, which was awarded to the Tippecanoe County Project Team; and the Excellence in Floodplain Management Award, which was awarded to Jan Crider and Mary Moran of the Indiana Department of Homeland Security. Stephanie Million, INAFSM Executive Secretary from 2001-2005, was honored with the Chairman's Award for Outstanding Service in Support of INAFSM.

This year's conference will be held at Brown County State Park, Abe Martin Lodge, September 13-15, 2006. Mark your calendars NOW!

ASFPM ANNUAL CONFERENCE

Plan now to attend the 2006 Association of State Floodplain Managers (ASFPM) annual conference in Albuquerque, NM, June 11-16, 2006. For more conference information, go to the ASFPM Web site at www.floods.org.

ASDSO NATIONAL CONFERENCE

The Association of State Dam Safety Officials (ASDSO) National Conference, Dam Safety '06, will be held September 10-14, 2006 at the Seaport

Hotel and Convention Center in Boston, Massachusetts. For information about ASDSO or Dam Safety '06, go to the ASDSO Web site at www.damsafety.org. ☞

OPERATION STAY AFLOAT 2006

Flood Preparedness and Mitigation Conference

March 7, 2006 9AM – 4PM
Indiana Government Center South
Indianapolis, Indiana

This conference is presented by the Indiana Department of Natural Resources and the Indiana Department of Homeland Security.

The goal of this conference is to provide information to community officials so they will be better prepared for future flood events, be more knowledgeable of applicable program requirements and mitigation opportunities, as well as being knowledgeable of current information on everyday floodplain issues. We want Indiana communities to “stay afloat” when floodwaters threaten.

Education/Training Credits: Certified Floodplain Managers will receive six continuing education credits for attending this one-day conference. Emergency Managers can earn 7 hours of PEM training credit.

Registration: No registration fees are being charged for this conference. However, participants are responsible for their own lunch and any parking expenses. Please register for the conference by calling Anita Nance, Floodplain Management Section of the DNR Division of Water, at 317-234-1110. You may also register by e-mail by sending your name and contact information to anance@dnr.in.gov. Registration should be done no later than one week prior to the conference. ☞

SHOULD EVERY NFIP COMMUNITY FLOODPLAIN ADMINISTRATOR BE A CERTIFIED FLOODPLAIN MANAGER?

By Anita Nance, CFM, Water Resource Planner, Division of Water

As is the case with nearly every challenge in life, the more informed we are, the better decisions we are able to make. If we know in advance what the pitfalls are, we are more likely to avoid them. If we know the correct ingredients to add, it is possible to take a less-than-ideal item and make it into something appealing or useful.

This is true whether we are talking about taking lemons and making lemonade or whether we are talking about the best use of the floodplain areas in our communities. Key to the successful best use of floodplain areas in our communities is to have informed local officials — particularly the floodplain management officials. Ideally, the person representing a community in this role not only administers the local floodplain regulations, but is a truly knowledgeable professional who will educate the community and build partnerships among organizations and agencies sharing the goal of advancing sound floodplain management. Although many communities in Indiana may have officials who possess these qualities, or at least a portion of them, some officials struggle to grasp the minimum basics of participation in the National Flood Insurance Program (NFIP). Many of these officials are “wearing many hats” due to the small size of their communities and find it difficult to administer the varied regulations involved in so many roles.

Each community that participates in the NFIP across this nation has designated a floodplain administrator. However, the Federal Emergency Management Agency (FEMA) does not have a national standard, or minimum requirement, for an individual to be appointed to this position. In 1999, the Association of State Floodplain Managers (ASFPM) established a national program for professional certification of floodplain managers — the Certified Floodplain Manager (CFM) program. The program recognizes

continuing education and professional development that enhances the knowledge and performance of local, state, federal, and private-sector floodplain managers. Since the creation of the CFM program, many individuals across the nation have become certified floodplain managers, including 38 in Indiana. Of those, only eight Certified Floodplain Managers are local officials who are acting as floodplain administrators for Indiana NFIP communities.

Indiana has 400 communities that currently participate in the NFIP. Those communities range in size from quite small to very large. The floodplains in those communities range from nearly non-existent to vast areas of floodplain to regulate. In the role of coordinating agency for the NFIP in Indiana, staff from the Department of Natural Resources, Division of Water has had the opportunity to travel the state and evaluate participating NFIP communities during normal times, as well as during times of disaster.

What have we observed? The knowledge level of the floodplain administrators in those 400 communities varies immensely. In communities where the knowledge level of the local floodplain administrator is fair or poor, the likelihood of the floodplain regulations being administered properly is poor. This situation increases the risk of improper construction and violations, risk of increased insurance premiums, and certainly increased risk of flood damage. Of course during a flood event, this can result in added public expense for response, rescue, and loss, in addition to personal losses.

During time of flood (or other disasters such as tornadoes that caused damage in flood hazard areas) those communities with knowledgeable floodplain administrators, particularly those with Certified Floodplain Managers as floodplain administrators, were noticeably more prepared and handled their post-disaster situations in a proactive manner. Victims benefit when community officials are knowledgeable and prepared — knowing how to respond in time of disaster and how to help their community recover after the disaster.

Recently, some states, including Arkansas and New Mexico, have enacted legislation that requires local floodplain administrators to become accredited either through the CFM program or an ASFPM-recognized state-specific certification program. The general purpose of the legislation cited is to make sure that local floodplain management regulations are properly administered, thereby reducing the likelihood of future flood damages to property owners within the respective states.

Recent catastrophic events such as Hurricane Katrina and Hurricane Rita, the failure of the levees at New Orleans, and the failure of the Taum Sauk dam in Missouri should make government officials at every level across the country more aware that "it can happen." Indiana is certainly not immune to disaster. We have experienced many floods and tornadoes, and there are numerous dams, levees, and other potential hazards that we should not ignore. While these large catastrophic events are important to prepare for, it is also important to assure that the everyday administration of regulations is properly discharged so that additional property and lives are not put at risk.

It is important for our communities to be informed and have knowledgeable local officials who will make the best decisions. Local officials should look at their communities and determine where they stand. It may be in their best interest to consider the benefits of having a CFM!

We would encourage every floodplain administrator and other local officials in Indiana to become as informed as possible on the basics of the National Flood Insurance Program and the proper administration of their community floodplain regulations. The Floodplain Management Section conducts several workshops for local officials each year at no charge. Contact Anita Nance of the Floodplain Management Section at 317-234-1110 for more information on workshops.

The Indiana Association for Floodplain and

Stormwater Management offers the CFM exam at the association's annual conference each fall. The Floodplain Management Section is offering an NFIP 101 refresher course on the morning of April 19, 2006, followed by the CFM exam in the afternoon at the Indiana Government Center. The Floodplain Management Section will also proctor an exam upon request. Contact Anita Nance of the Floodplain Management Section at 317-234-1110 for more information on taking the exam. If you would like additional information on the CFM certification program, visit the ASFPM Web site at www.floods.org. ❧

CONGRATULATIONS



Five more Hoosiers have earned the title of Certified Floodplain Manager (CFM). **Tracie Belongia**, CFM, who works for the Hancock County Surveyor's Office, and **Andrew Gordon**,

CFM, of W. D. Wessler, both passed the exam on September 28, 2005 when the exam was offered at the Indiana Association for Floodplain and Stormwater Management annual conference. **Raj Gosine**, PG, PE, CFM, of the Division of Water, Department of Natural Resources, **Kenton Ward**, CFM, Hamilton County Surveyor, and **Leonard Noens**, PE, CFM, of Christopher B. Burke Engineering, passed the exam on December 16, 2005. They join 33 other Indiana CFMs. Congratulations Tracie, Andrew, Raj, Kent, and Lenny!

The Certified Floodplain Manager Program is a national certification program established through the Association of State Floodplain Managers (ASFPM). The program recognizes continuing education and professional development that enhance the knowledge and performance of local, state, federal, and private-sector floodplain managers. For a list of current CFMs and more information on the certification program, go to the ASFPM Web site at www.floods.org. ❧

ATTENTION FLOODPLAIN ADMINISTRATORS

By Laura Kannapel, Water Resource Planner, Division of Water

Did you know there are free courses that you can take at the Emergency Management Institute?

The courses are Managing Floodplain Development through the National Flood Insurance Program (course E273) and National Flood Insurance Program/Community Rating System (course E278). The Federal Emergency Management Agency (FEMA) offers these courses to Floodplain Administrators of communities that participate in the National Flood Insurance Program (NFIP).

FEMA covers the cost for you to attend these courses, as well as the housing at the Emergency Management Institute (EMI), and reimburses the airfare (or pays mileage for travel by car). The only cost to your community, aside from your regular salary, is the \$90.00 meal ticket. I can assure you that the money for the meal ticket is well worth it. You definitely will not go hungry!

This is a wonderful opportunity to become better informed on the NFIP and how it is beneficial to your community. It is also a great opportunity to meet people from all over the country. It is interesting to hear how other states implement and run the NFIP. The instructors are wonderful. They encourage class participation and interaction among the students — making the class fun and interesting.

I must also mention that the E273 course is great preparation for the Certified Floodplain Manager (CFM) exam. Successful completion of this course, along with your experience and some study, will prove a great help in passing the CFM exam.

The setting of the Emergency Management Institute (EMI) is stunning. The institute was formerly an old all-girls college with an interesting history dating as far back as the Civil War. It is located in Emmitsburg, Maryland, which is only five miles from Gettysburg (where there is even more history). There are many opportunities for

sightseeing and extracurricular activities — even karaoke night on Wednesdays.

To get information on the courses, go to the FEMA Web site at www.fema.gov and click on Education and Training. The courses are listed, along with the dates. You can even fill in your application online. After you have completed your application, forward it on for approval by the State and the FEMA Regional Offices. Just mail your application to the Floodplain Management Section, Division of Water at 402 West Washington Street, Room W264, Indianapolis, Indiana 46204 and we'll take it from there.

Being a former student myself, I can say that it is worth every effort to try to attend the courses offered. Taking the E273 course at EMI helped reinforce my knowledge of the NFIP and has enabled me to do my job with much more confidence, which in turn has made me more efficient. You won't regret attending, I promise!☺

PRECIPITATION REPORT FOR JULY THROUGH DECEMBER 2005



We typically think of July being hot and humid. July 2005 was no exception. Rainfall ranged from below normal to much above normal, with totals of less than 3 inches to more than 9 inches. Some of this rain is attributed to the remnants of major Hurricane Dennis, which began to have some effect beginning on the 11th. Rainfall directly from this system ranged from less than ¼ inch to slightly over 2 inches. A cold front later swept through, bringing more precipitation. By the 18th, much of central and southern Indiana had received 2 to nearly 5 inches of rain from this tropical moisture.

Much of Indiana north of a line from Lafayette to Fort Wayne received little or no rain during August. Rainfall during August was also rather light in much of central and southern Indiana —

that is, until the last days of the month, when the remnants of Hurricane Katrina began to drop rainfall across southern and central Indiana. The heaviest rain of 3 to nearly 5 inches fell in a narrow band from Vincennes to Winchester.

September began on a dry note, but ended up with near normal to above normal precipitation in most of Indiana. Scattered storms began hitting various parts of the state after the 13th. For some areas, this was the first significant rain since the latter part of August. The remnants of Hurricane Rita dropped 1/2 to 3 inches of rain across central and much of southern Indiana on the 25th.

October was nearly a repeat of September, with rainfall generally below normal across most of Indiana. This was not the story for November, which was markedly different from the previous months. November was host to frequent, and at times heavy, rainfall. Storms, which included heavy rains, on November 15, caused some river flooding and some flash flooding to occur. At this point, all was overshadowed by the death and destruction left behind after tornadoes hit, not once, but twice in the month of November. Twenty-three persons died as a result of the tornadoes in southwest Indiana on November 6th.

Severe storms and tornadoes occurred again on the 15th.

Although the precipitation was generally below normal in December, snowfall was above normal in most areas. The first significant snow came suddenly on the 8th. In much of central Indiana, snow fell at the rate of 1 to 2 inches an hour. This snow remained on the ground at Indianapolis through the 23rd of December.

Rain and snow both came to visit on Christmas. Rain of from 3/4 to nearly 1 1/2 inches fell early in the day in much of central and southern Indiana. The rain changed over to snow later in the day as the colder temperatures took hold, and snow of 1 to 3 inches fell in much of northern and central Indiana.

Monthly snowfall was above normal in much of central and northern Indiana, ranging from around 2 inches to more than 14 inches. Much of central Indiana received 6 to 10 inches of snow during the month of December. This December was the snowiest since 2000 for Indianapolis. December ended with virtually no snow cover, saturated ground and rivers at or slightly above bankfull levels. ❄



KEY:

ACTUAL (INCHES)
NORMAL (INCHES)



Locations	July 2005	August 2005	September 2005	October 2005	November 2005	December 2005	Totals 2005
CHICAGO	1.95	2.47	2.66	1.39	2.31	1.36	24.09
IL	3.51	4.62	3.27	2.71	3.01	2.43	36.27
SOUTH BEND	3.46	2.20	3.07	1.24	2.21	1.79	27.31
IN	3.73	3.98	3.79	3.27	3.39	3.09	39.70
FORT WAYNE	5.19	1.95	3.97	0.51	3.29	2.16	31.94
IN	3.58	3.60	2.81	2.63	2.98	2.77	36.55
INDIANAPOLIS	2.98	4.20	4.67	1.64	3.64	2.69	43.73
IN	4.42	3.82	2.88	2.76	3.61	3.03	40.95
EVANSVILLE	2.69	8.51	2.00	0.73	5.93	2.55	41.96
IN	3.75	3.14	2.99	2.78	4.18	3.54	44.27
LOUISVILLE	3.02	7.17	1.32	0.82	3.53	2.04	39.54
KY	4.30	3.41	3.05	2.79	3.81	3.69	44.54
CINCINNATI	1.76	6.34	2.00	2.21	4.13	1.81	39.46
OH	3.75	3.79	2.88	2.86	3.46	3.15	42.43

Note: Official and certified climate data can be accessed at National Climatic Data Center (NCDC) <http://www.ncdc.noaa.gov/oa/ncdc.html>

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Editor - Anita Nance

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